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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,790	06/17/2005	Jutta Arden-Jacob	ARDEN-JACOB-3	4872

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HENRY M FEIEREISEN, LLC
HENRY M FEIEREISEN
708 THIRD AVENUE
SUITE 1501
NEW YORK, NY 10017

EXAMINER

POWERS, FIONA

ART UNIT	PAPER NUMBER
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1626

NOTIFICATION DATE	DELIVERY MODE
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05/10/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@FEIEREISENLLC.COM

Office Action Summary	Application No. 10/539,790	Applicant(s) ARDEN-JACOB ET AL.	
	Examiner Fiona T. Powers	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6-8,15,21-24 and 34-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 6-8, 15, 21-24 and 34-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The previous office action - a final rejection mailed on January 7, 2010 is hereby vacated in view of the telephone interview with Ursula Day on May 4, 2010.

Claims 4, 6-8, 15, 21-24 and 34-37 are pending in the application.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 30, 2009 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 6 to 8, 15, 21 to 24 and 34 to 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 34, structure (G) is shown on page 7. However, none of the variables of formula (I), for example Cyc2 is defined as (G).

In claim 35, "Cyc2" is not defined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 6 to 8, 15, 21 to 24 and 34 to 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao et al. (US 6130101), of record.

Determination of the scope and content of the prior art (MPEP §2141.01)

The reference discloses structurally similar carboxamide-substituted dyes that are useful as fluorescent probes. The compounds of the reference are structurally similar to the claimed dyes of the formula I wherein Y is oxygen; R₅ and R₆ are each a hydrocarbon group one of which is substituted by a carboxyl group; Cyc1 is unsubstituted or substituted phenyl; Cyc2 is optionally substituted phenyl or has the structure (E); and at least one of the groups that correspond to R₁, R_{1'}, R₃, R_{3'}, R₄, R_{4'}, and R is a sulfo group. Note for example, Examples 25 to 31 of the reference. Also note that in some of these examples, the carboxamide group is shown floating in the ring. Therefore in these examples, the compounds where the carboxamide group is in the ortho position are included.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The compounds of the reference differ from those claimed in that the group that corresponds to R₅ or R₆ of the instant invention that is not substituted with a carboxyl group is a hydrogen atom instead of an alkyl group and/or the sulfo group(s) are attached to the compound via a methylene group instead of being directly attached to the molecule and/or that the carboxy group of the instant invention that is attached to R₅ or R₆ is replaced by another reactive functional group such as a maleimide group.

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Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)

It has been held that it is obvious to replace a hydrogen atom with an alkyl group. Note In re Wood, 199 USPQ 137, for example. The reference itself teaches that the sulfo group may be attached directly or indirectly via a methylene group to the compound. See column 3, lines 13 to 25. The substitution of another reactive group for the carboxyl group of the present invention is also taught by the reference. Note column 13, lines 25 to column 16, line 2. The reference discloses that the spectra of the sulfonated rhodamine dyes of the invention are insensitive to pH changes and that the dyes possess substantially greater water solubility than non-sulfonated analogs. Therefore, one of ordinary skill in the art would have been motivated to make the claimed dyes with the expectation that additional dyes with superior properties would be obtained.

Response to Arguments

Applicant's arguments filed November 30, 2009 have been fully considered but they are not persuasive. Applicants' state that claims 34 and 35 as currently amended overcomes the rejection based on US Patent No. 6,130,101 (Mao) because these claims now specify that the Cyc1 is substituted at the ortho-position of the ring attached to the backbone of formula (I)

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with $-\text{CONR}_5\text{R}_6$. Applicants further state that all drawbacks of rhodamines having a free $-\text{COOH}$ are avoided and by converting the $-\text{COOH}$ group into a secondary amide, absorption and fluorescence become independent of pH; since lactam formation is not longer possible, dye absorption and fluorescence remain intact.

However, in some of the examples of Mao mentioned above, the carboxamide group is shown floating in the ring. Therefore the compounds where the carboxamide group is in the ortho position are included. Note that there are two ortho positions in the ring that corresponds to Cycl , for example a phenyl ring. The present claims do not exclude the possibility of having a free $-\text{COOH}$ group at one ortho position and the $-\text{CONR}_5\text{R}_6$ group at the other ortho position which would be rendered obvious by the dyes of Mao et al.

Non-Compliant Amendment

The amendment filed November 30, 2009 is non-compliant because amendments to the claims have not been shown with the proper markings (strikethrough and underlining). In claim 34, structures (D) and (G) shown on page 7 of the amendment filed November 30, 2009 should be underlined since these structures were not present in the amendment filed May 13, 2009. In claim 35, the structure for formula (I) should be underlined since

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this formula (I) is different from the formula (I) that appeared in the amendment filed May 13, 2009. The formula (I) that was deleted should be shown with strikethrough.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is 571-272-0702. The examiner can normally be reached on Mon - Thurs 6:15 am - 2:45 pm (in the office) and Fri 7:00 am - 5:30 pm (telework day).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fiona T. Powers/
Primary Examiner, Art Unit
1626

ftp
May 5, 2010